

common at Raccoon. Moreover it is a plant of rare occurrence and obviously recent introduction in any part of Canada.

Linaria canadensis Dum.-Cours. Bot. Cult. 2: 96. 1802.

"Lieu. Le Canada, la Virginie." Doubtless based upon *Antirrhinum canadense* L.

Flowering from late April to October, and soon ripening fruit.

Open sandy potassic soil, frequently a weed; throughout the Coastal Plain of Long Island and New Jersey, but likely introduced into the Pine Barrens; above the Fall-line occasionally introduced along railroad-tracks. Ranges from Massachusetts to Florida and Texas.*

(To be continued.)

REMINISCENCES OF ORCHID-HUNTING

BY HERBERT M. DENSLow

One who has much to do with orchids garners a store of happy memories. The writer's acquaintance with this fascinating family began in the year 1867 and extends over a period very nearly the same as the life of the Torrey Club. These recollections, however, do not really cover this half century, but are concerned chiefly with about a dozen years at the beginning of it and as many more since the year 1905. The interval was too much occupied with professional duties to leave more than occasional scraps of time for any hobbies. They were not barren years, for they included some fascinating excursions and thrilling discoveries; but they are not so crowded, in retrospect, with memories of orchid-hunting as are the earlier and the later periods.

The earliest picture is of an extensive cranberry bog, long since drained and cultivated, in East Haven, Connecticut, in which on one unforgettable summer day, the novice, who had

* The following plants are to be considered as scarcely established.

CYMBALARIA CYMBALARIA (L.) Wettst., from Eurasia, is occasional along roadsides, and elsewhere near old gardens.

KICKXIA ELATINE (L.) Dumort. and K. SPURIA (L.) Dumort., both from Eurasia, are occasionally seen, mostly on ballast.

never seen even one orchid before, was introduced to three most attractive species, *Pogonia ophioglossoides*, *Calopogon pulchellus* and *Habenaria ciliaris*. There were other interesting plants in that bog, but no *Vaccinium* nor *Andromeda* nor *Cassandra*, nor all the rest, made any impression, in comparison with the orchids, all of which were in great profusion and in perfect bloom. From that day the writer dates the incomparable joys of orchid-study in field and forest and bog, and in books and conversations, during more than fifty years. There were many botanizing excursions near New Haven during the next few years, but no memories are particularly vivid, except those of collecting *Arethusa* in abundance, including one plant that bore two scapes and three flowers, in a bog that is now dry land, and of finding an occasional plant of *Isotria verticillata* in fruit, never one in flower, in the woods adjacent to Edgewood, the home of Ik Marvel.

On the upper end of Manhattan Island there were native orchids in those days. In a bank by the side of a private road leading up through the woods from the New York Central Station at Inwood, was a small colony of *Tipularia*. Between that spot and "the Kingsbridge Road," were found occasionally *Liparis liliifolia*, *Goodyera pubescens*, *Corallorrhiza odontorhiza*, *Spiranthes gracilis* and *Spiranthes cernua*; authentic specimens of which are preserved in the local herbarium of the New York Botanical Garden. The writing of these names reminds one of the changes in nomenclature, as well as in the region, since those earlier days; but these binomials are adequate for identification.

Most of the writer's orchid-hunting in recent years has been done in the town of Fairlee, Orange County, Vermont, where within about two square miles thirty-three species have been found, nearly one half of those listed in Gray's Manual. This surprising result began just ten years ago with the finding of *Cypripedium arietinum* in a most unexpected place. There hadn't been any search for it; the writer was scrambling up a steep mountain, and there, on a dry slope, appeared this *rara avis*. The books report it as growing in bogs. It does; but it thrives on this stony declivity, where the slope is from 45° to 60°, where

the ground is dry almost at once after rain. It is restricted to an area of a few square rods, at an elevation of about 1000 feet. There are more than two hundred plants. They grow chiefly in groups of from three to six, and multiply apparently by seed, which falls straight or is scattered a few feet by wind. This year scores of plants blossomed and nearly every blossom was fertilized, promptly; the anthesis is not longer than ten days. Evidently this orchid can get along with very little water. If we knew more about some species we should hesitate to indicate for them any restricted environment; and we should know more about them and less often call them "rare," if we could go oftener to the secluded spots in which they delight to live.

The most frequent orchid in Fairlee is *Habenaria Hookeri*. It is found on every wooded hill, sometimes even on roadside banks. In one morning's ramble of three hours up and down on a small mountain, two hundred and seventeen plants of this species were counted, of which about one seventh were blossoming. *H. orbiculata* grows in the same woods. It is less frequent and is now being exterminated by the logging that is stripping the hillside. Of these two related species, *H. orbiculata* seems to prefer to grow on a slope, *H. Hookeri*, in more level or sunken spots. The size of the leaves at anthesis, is no indication of the species; even *H. macrophylla* sometimes has leaves smaller than are found on some plants of *H. Hookeri*. Where *H. orbiculata* is fairly abundant, as it was on that now denuded hillside, it is a fine sight to look up the slope and see the many tall scapes with their striking flowers. This species is more readily discerned at a distance than *H. Hookeri*, not only because it is taller, but because it generally grows in more open spots. *H. macrophylla* is much rarer; though, in the summer of the year 1918, near St. Johnsbury, Vermont, it was found oftener than *H. orbiculata*. Perhaps these are not specifically distinct.

The latest species to be discovered, of the thirty-three now known in Fairlee, are the two northern *Listeras*, *L. convallarioides* and *L. cordata*, the former flourishing in a high, open swamp, the other, dying out, quite in contrast to its appearance on Mt.

Killington, thirty-six years ago, where, in a mossy belt that encircles the peak at an elevation of 3,500 feet, it was as frequent and as strongly entrenched as dandelions on a lawn.

The pleasures of recent discovery have not all been experienced in Fairlee. They include the sudden view of a sunny hillside in open woods, in Albemarle County, Virginia, fairly studded with prosperous plants of *Liparis liliifolia*; the finding of *Orchis spectabilis* in the same woods in bloom on April 30 and of *Isotria verticillata* not far away, almost in a farm yard, a week later; the meeting of *Cypripedium arietinum* as frequently as *H. Hookeri*, in dry woods again, and even on exposed rocks, in Essex County, New York; and the much prized opportunity of studying *Aplectrum* during one whole summer, from the withering and decay of the old leaves until the appearing in early September of the reddish-brown tips of the next winter's foliage. This plant is perhaps local rather than rare. Its peculiar habit helps to hide it. For three months, the months in which the collector is most busy, one could walk over the temporary graves of this abnormal species without suspicion of its nearness, unless there had been a flowering scape and some of its ovaries had become fertile. These exceptions are infrequent; for only a small percentage of the bulbs send up scapes and, if these are not promptly visited by the proper insects, they shrivel and die within a few days. If, however, any one of the six to ten flowers on a scape is fertilized all are apt to share the benefit; and the strong stalks with their big capsules become conspicuous during the next summer or in the ensuing spring. Like many of the rarer orchids, *Aplectrum* is more likely to be found by apparent chance than by search.

For, orchid-hunting is an adventure always. It is impossible to predict that any species will be found in a certain locality or environment, however right and proper they may seem to be. Some lack or superfluity, in soil or surroundings, the crowding of some alien neighbors, the failure of a sheltering umbrage, the disappearance of some insect life may have caused extermination; or the species may never have found the apparently favorable habitat, where you seek for it in vain. The orchid-lover in

a new region is a true pioneer. Every step is an adventure, every moment pregnant with possibilities of delightful surprise. He may ramble or scramble for an hour without one cheering sight; when he pauses to take breath or to get his bearings, he may look down and see a *Listera* or some rarer *Habenaria* waiting to be admired. He may even hesitate to gather the treasure, for he knows that it will never present again an aspect so altogether charming as in its chosen place of growth. The collector of terrestrial orchids is bound to be something better than a hunter. In the tropics, gathering orchids may be chiefly commercial; in our zone, it is aesthetic in good part. The diligent searcher for these alluring denizens of meadow, bog and forest is not desirous simply to find herbarium specimens or to add to the number of local species; he enjoys the living plants, appreciates their oddities, is charmed by their almost bewildering variety of form and function, studies them in their homes, in their life. He enjoys the hunting, too, even when it is for the time unrewarded, for his search takes him into secluded places, where the silence sometimes is "wide, velvety, complete"; where, with happier frequency, the solitude is vocal with the songs of birds or thrilling with the myriad, incessant, little noises of the wild; or his footsteps wander over a carpet of *Linnaea* or sink with cushiony comfort into fragrant beds of sphagnum; he tiptoes around or over quaking bogs and pauses to scrutinize tuft and tussock for an *Arethusa* or a *Listera*; while every moment he is pleasurably aware that his next glance may fall on some desired species that he has hunted for years or, with almost equal satisfaction, on one well-known, but beautiful, and not disesteemed because familiar. Each orchid-lover who is able to roam the woods and fields and traverse the bogs finds in his own wishes and activities a perennial fountain of joy. While he is making new friends or renewing old acquaintance, he is storing fragrant memories; many a remote woodland spot becomes as clear, to grateful recollection, as his own dwelling; he becomes too full perhaps of reminiscence, but never quite replete with adventure or ready to give over the search.

FAIRLEE,
VERMONT.